

## WHAT IS CLAIMED IS:

1. A piezoelectric diaphragm comprising:

a multilayer ceramic body including a plurality of piezoelectric ceramic layers, principal-surface electrodes disposed on upper and lower principal surfaces of the multilayer ceramic body, and an internal electrode provided at an interface between adjacent piezoelectric ceramic layers; wherein

flexure vibration occurs in the piezoelectric diaphragm when an AC signal is applied between the internal electrode and the upper and lower principal-surface electrode;

the upper and lower principal-surface electrodes are electrically connected to each other via a first side surface electrode disposed on one side surface of the multilayer ceramic body;

the internal electrode is electrically connected to a second side surface electrode disposed on a side surface that is different from the side surface on which the first side-surface electrode is provided;

the second side surface electrode is electrically connected to a lead electrode disposed on at least on the upper principal surface of the multilayer ceramic body;

the upper and lower principal surfaces of the multilayer ceramic body being substantially entirely covered with a resin layer;

a first cutout being formed in a side-edge portion, along the first side surface electrode, of the upper resin layer such that the upper principal-surface electrode is partially exposed in the first cutout;

a second cutout being formed in a side-edge portion, along the first side surface electrode, of the lower resin layer such that the lower principal-surface electrode is partially exposed in the second cutout; and

a third cutout being formed in a side-edge portion, along the second side surface electrode, of the upper resin layer such that the lead electrode is exposed in the third cutout, and

the first and second cutouts formed in the upper and lower resin layers, respectively, are at locations that do not oppose each other.

2. A piezoelectric diaphragm according to claim 1, wherein the multilayer ceramic body has a substantially rectangular shape.

3. A piezoelectric diaphragm according to claim 1, further comprising a case and a lid, wherein the multilayer ceramic body is disposed in the case and sealed in the case by the lid.

4. A piezoelectric diaphragm according to claim 3, wherein the case includes at least one sound hole.

5. A piezoelectric diaphragm according to claim 1, wherein the plurality of piezoelectric ceramic layers are polarized in the same direction.

6. A piezoelectric diaphragm according to claim 1, wherein the internal electrode has a substantially rectangular shape.

7. A piezoelectric diaphragm according to claim 1, further comprising a dummy electrode disposed between at least two adjacent ones of the plurality of piezoelectric ceramic layers.

8. A piezoelectric diaphragm according to claim 7, wherein the dummy electrode has a shape of an incomplete rectangular frame lacking one side.

9. A piezoelectric diaphragm according to claim 7, wherein the dummy electrode is arranged such that three sides of the internal electrode are surrounded by the dummy electrode via a gap.

10. A piezoelectric diaphragm according to claim 7, wherein the dummy electrode is exposed at four side surfaces of the multilayer ceramic body.

11. A piezoelectric diaphragm according to Claim 1, wherein each of the upper and lower resin layers is made of a material having a Young's modulus in the range of about 500 MPa to about 15000 MPa.

12. A piezoelectric diaphragm according to Claim 1, wherein each of the upper and lower resin layers has a thickness of about 5  $\mu\text{m}$  to about 10  $\mu\text{m}$ .

13. A piezoelectric diaphragm according to claim 1, wherein the first cutout formed in the side-edge portion, along the first side surface electrode, of the upper resin layer is located near one end of the side-edge portion, the second cutout formed in the side-edge portion, along the first side surface electrode, of the lower upper resin layer is located near the opposite end of the side-edge portion, and the third cutout formed in the side-edge portion, along the second side surface electrode, of the upper resin layer is located near either one of the two ends of the side-edge portion.

14. A piezoelectric electroacoustic transducer comprising:  
a piezoelectric diaphragm according to claim 1;  
a housing in which the piezoelectric diaphragm is housed, the housing having a supporting portion for supporting the piezoelectric diaphragm at two opposing sides of the piezoelectric diaphragm or at corners of the piezoelectric diaphragm or over the entire perimeter of the piezoelectric diaphragm, a pair of terminals, one end portion of each terminal being exposed, at a location near the supporting portion, on the inner side wall of the housing, the other end portion of each terminal being exposed on the outer surface of the housing; wherein

a portion, exposed in the first cutout, of the upper principal-surface electrode is connected to the one end portion of one terminal via a conductive adhesive, and the lead electrode, exposed in the third cutout, is connected to one end portion of the other terminal via a conductive adhesive.